NOTES AND MEMORANDA

CAN THE FARMER REALIZE HIGHER PRICES FOR HIS CROPS BY HOLDING THEM?

THERE is a widespread belief that farmers suffer serious loss from having to throw their crops on the market immediately after the harvest and that some adequate provision should be made for lending the farmer money on the security of his harvested crops — chiefly grain or cotton — so that he would not be forced to dispose of them on a glutted market at unfavorable prices.[1] The necessity for providing credit to enable farmers to store their products has been a favorite argument in the rural credit agitation of the past three or four years, and an attempt has been made by the Federal Reserve Board to satisfy this demand through its act of September 3, 1915. This act made provision for a new form of paper, known as commodity paper, which should bear a preferential rate of interest on condition that the local bank should not charge the farmer more than 6 per cent. It was provided that " notes secured by non-perishable staple commodities, having a specified date of maturity, and upon which member banks had not charged a rate of interest or discount, including all commissions, of more than 6 per cent per annum, should be eligible for rediscount in Federal Reserve Banks at a

[1] The statement of the Dallas Federal Reserve agent is typical After calling attention to the fact that Texas has gathered the largest yield of oats ever known in the state and that nevertheless the price has fallen, he says· " The farmer grows his crop, and having no place to care for it, throws it on the market at any price it will bring In this connection the bankers of the State are undertaking an aggressive campaign to secure the erection of warehouses While this is primarily aimed in the interest of cotton, the lesson ought to hold in general " Federal Reserve Board Bulletin, July, 1915, p. 162

preferential rate." [1]   While this provision for commodity paper was to apply to all staple products, such as corn, sugar and wool, its application has been confined almost wholly to cotton.   By the end of the year commodity paper had been issued to the amount of $10,300,000, of which $7,500,000 was still outstanding.[2]   In this connection it is interesting to note that in comparison with the value of the cotton crop the amount of paper issued is a mere bagatelle.   The argument for such loans rests upon two assumptions; first, that the ordinary credit machinery is either defective or inadequate to meet the legitimate demands of the farmer who wishes to borrow on his products, and second, that owing to this fact the American farmer is suffering severe losses. While I am of the opinion that the first of these assumptions is unwarranted, I wish to confine this brief discussion to the second — namely, that the farmer suffers loss from having to market his crop immediately after the harvest is garnered.

Agricultural products fall into two groups, those which are bought and sold speculatively and those which, owing to their perishable nature or their incapacity to be standardized, are not so bought and sold.[3] I shall consider in succession several products of the first class, namely, wheat, corn, oats and cotton, seeking in each case an answer to the question — will it be more profitable for the farmer to sell his crop when it is ready for the market, or to store it and hold it for better prices ?

Crops cannot be held by the farmer without cost. The elements of this carrying cost vary among crops

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[1] Second Annual Report, Federal Reserve Board, p. 7

[2] Ibid , p. 8.

[3] It may be well to call attention to the fact that the prices of many farm products, besides those bought and sold on the exchange, are influenced by speculation. Eggs, apples, lean cattle, sheep, and dairy products may be mentioned as examples.

and among farmers, and there is likely to be a difference of opinion among students of the problem as to its amount. As a rule the farmer can market his products cheapest as soon as they are ready for the market, when for instance, as is oftentimes the case, his grain can be delivered to the elevator from the machine; and thus handling and storage charges are minimized and waste is avoided, and in the case of certain products the loss from deterioration and shrinkage during storage is prevented. To the elements of the carrying cost indicated, insurance and interest must be added. Owing to wide variation in some of these elements, it has been thought best, in order to give the holding farmer the benefit of the doubt, to leave them out of account. For example, no charge is made for insurance, for extra handling, or for extra cost of hauling to market due to bad roads or to the hauling having to be done at the time when the farmer is busy in the field. In the case of grain, it is assumed that the farmer stores it himself, and as he must have the bins whether he holds the crop or not, no charge is made for storage.[1] In the case of cotton, however, conditions are different and the usual warehouse charges, amounting to fifty cents per bale for the first month and after that to twenty-five cents per month, are made. In the case of oats and wheat, shrinkage is not heavy, and this item, together with waste in handling, is assumed to be 6 per cent and is distributed over the first six months of holding the grain. In the case of corn, the shrinkage is very heavy and varies from month to month throughout the year,[2] and it is esti-

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[1] Since writing this statement the writer has made an automobile trip from Washington, D C , to Central Montana, stopping with farmers en route His observations convince him that storage charges are a very important element of expense in the holding costs, particularly in the newer states, Minnesota and the Dakotas for example In South Dakota storage up to July 1, had in many cases amounted to eight cents per bushel.

[2] It is estimated that the shrinkage up to December is 6 9 per cent; January, 7 5 per cent; February, 7.8 per cent; March, 9 7 per cent; April, 12 8 per cent; May, 14 7

mated that for the first ten months it amounts to 18.2 per cent and that for the last two months its amount is negligible. It is assumed that cotton undergoes no shrinkage in storage. In all cases the rate of interest is assumed to be 6 per cent per year and is figured on the price of the commodity at the date when it is assumed to have been ready for the market, or, in other words, at the beginning of the storage period.[1]

On the assumption that the movement of prices for ten years is an adequate basis for discussion, the grain prices have been secured by taking the ten year average of the monthly high and low selling prices on the Chicago market; and the price of cotton has been determined by taking the ten year average of the high and low selling prices for twenty-eight interior towns in the United States. No attempt is made to give the total amount of a commodity thrown on the market during a given month, but, in the case of grain, it is assumed that the relative amount can be determined by the amount put upon certain principal markets; namely, Chicago and Minneapolis in the case of wheat, and Chicago in the case of oats and corn, while for cotton the amount delivered at twenty-eight interior towns is taken.

It is apparent that in a country as large as the United States all of a given commodity is not ready for the market at the same time, and the date on which the farmer may sell his crop must be more or less arbitrarily assumed; but if the movement throughout the year be kept in view the date chosen as a basis for comparisons cannot materially affect conclusions. The date taken for wheat and oats is August; for corn, December; and

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per cent; June, 16 2 per cent; July, 17.3 per cent; August, 17 8 per cent; September, 18 2 per cent   (Unpublished monograph on the Marketing of Farm Products, Dr. H. W Gilbertson)

[1] The price taken is the wholesale market price, and not the price received by the farmer. It is evident that this somewhat exaggerates the interest charge.

for cotton, November. The average price on these respective dates and the average amount put on the market then are taken as bases for computing the relative prices and amounts for the other months of the year. For example, the average ten year price of cotton on November first, 11.8 cents, is used as a basis — 100. The average ten year price on January first is 11.6 cents and the relative price on January first is 98, *i. e.*, 11.6 divided by 11.8 and the result multiplied by 100. For movement the ten year average amount delivered on November first, 1,275,500 bales, is used as a basis — 100, and the relative amount on January first, (628,700 bales) is found to be 49. The price on a given date less the carrying charges to that date represents the net selling price, and the difference between this net selling price and the price at the beginning of storage represents the farmer's gain or loss from holding.

The conclusions are drawn from the statistics in the following tables which summarize the more detailed tables appended to this paper. The first table shows the relative average monthly receipts and selling price (per

TABLE I. — WHEAT

	Average Monthly Price for Ten Year Period (Cents)	Relative Average Monthly Price for Ten Year Period	Relative Average Monthly Price if Held	Relative Average Monthly Receipts for Ten Year Period
August..........	104.5	100	100	100
September........	101.0	97	95	132
October..........	100.4	96	93	128
November........	97.5	93	89 +	116
December........	98.4	94	88	101
January..........	102.8	98 +	91	75
February.........	102.2	98	89 +	65
March...........	100.8	96 +	87 +	75
April.............	100.9	96 +	87	53
May.............	103.4	99	88	52
June.............	105.3	101	90	45
July.............	107.4	103	91 +	79

bushel) of wheat, and relative average monthly price if held, during the ten year period, 1903–12.

In the preceding table it is seen that the maximum selling price of wheat is reached in July, when it is relatively three points higher than in the preceding August, or $1.074 as compared with $1.045, a difference of 2.9 cents; that is, if it had cost the farmer nothing to carry his wheat and if he sold it at the high point, he would have gained 2.9 cents per bushel; but since carrying charges up to July first were twelve cents per bushel, the farmer would have actually lost 9.1 cents by holding. Moreover, there were only two months out of the eleven in which wheat sold at a higher price than at the time it was ready to go on the market; and if carrying charges be taken into account, it will be seen that if the farmer had sold his wheat in either one of these months he would have lost by holding.

If, on the other hand, we take the selling price in September, $1.01, as the basis, on the supposition that the crop was not ready for the market until then, we find the maximum selling price, in July, relatively six points higher, or $1.074 as compared with $1.01, a difference of 6.4 cents; that is, if it had cost nothing for the farmer to carry the wheat and if he sold it at the high point, he would have gained 6.4 cents per bushel; but since carrying charges up to July first were eleven cents per bushel, the farmer would have actually lost 4.6 cents by holding. Moreover, although there were six of the twelve months in which wheat sold at a higher price than in September, yet if carrying charges be taken into account it will be seen that if the farmer had sold his wheat in any one of these months he would have sustained a loss from the holding.

A second table similarly prepared shows the relative average monthly receipts and selling price (per bushel)

of oats, and relative average monthly price if held, during the ten year period, 1903–12.

It is evident from this table that the maximum selling price of oats is reached in June, when it is relatively sixteen points higher than the selling price of the preceding August, or 43.5 cents as compared with 37.6 cents, a difference of 5.9 cents; that is, if it had cost nothing for the farmer to carry the oats and if he sold at the high point, he would have gained 5.9 cents per

TABLE II. — Oats

	Average Monthly Price for Ten Year Period (Cents)	Relative Average Monthly Price for Ten Year Period	Relative Average Monthly Price if Held	Relative Average Monthly Receipts for Ten Year Period
August............	37.6	100	100	100
September........	38.4	102 +	101	78
October..........	37.6	100	97	84
November........	37.4	99	95	59
December........	38.8	103	97	51
January..........	39.5	105	98	55
February.........	41.0	109	100	51
March...........	41.1	109 +	100 −	66
April............	41.7	111	101	50
May.............	43.4	115	105	58
June............	43.5	116	105 −	61
July.............	42.9	114	102	47

bushel; but since carrying charges up to June first were 4.2 cents per bushel, in reality the farmer would have made only 1.7 cents by holding. An examination of the table shows that in all but two of the eleven months oats sold at a higher price than at the time the crop was ready for the market; but if carrying charges be taken into account it will be seen that if the farmer had sold his oats in any one of five of the eleven months, he would have lost by the holding.

Table III shows likewise for corn the relative average monthly receipts and selling price (per bushel), and

relative average monthly price if held, during the ten year period, 1903–12.

The figures demonstrate that the maximum selling price of corn is reached in August, when it is relatively twenty-one points higher than the selling price in the previous December, or 64.2 cents as compared with 52.9 cents, a difference of 11.3 cents; that is, if it had cost nothing for the farmer to carry his corn and if he sold it at the high point, he would have gained 11.3

TABLE III. — Corn

	Average Monthly Price for Ten Year Period (Cents)	Relative Average Monthly Price for Ten Year Period	Relative Average Monthly Price if Held	Relative Average Monthly Receipts for Ten Year Period
December.........	52.9	100	100	100
January..........	51.7	98	90	105
February.........	53.0	100 +	92	99
March...........	54.5	103	94	87
April............	57.1	108	96	51
May.............	60.6	115	99	53
June............	61.2	116	98 +	120
July............	61.7	117	97	63
August..........	64.2	121	100 +	59
September.......	63.4	120	98	114
October.........	60.3	114	91	54
November.......	58.4	110	87	58

cents per bushel; but since the carrying charges up to August first were 11.2 cents per bushel, there was no gain from the holding. The table shows that in all but one of the eleven months corn sold at a higher price than at the time it was ready for the market; but if carrying charges be taken into account, it will be seen that if the farmer had sold his corn in any month except one he would have lost by the holding, and in that one month he would have about broken even.

A similar table for cotton shows the relative average monthly receipts, and selling price (per pound), and

relative average monthly price if held, during the ten year period, 1904–13.

The table indicates that the maximum selling price of cotton is reached in July, when it is relatively seven points higher than the selling price in the preceding November, or 12.6 cents as compared with 11.8 cents, a difference of $\frac{8}{10}$ cents; that is, if it had cost nothing for the farmer to carry his cotton and if he sold at the high point, he would have gained $\frac{8}{10}$ cents per pound;

TABLE IV. — Cotton

	Average Monthly Price for Ten Year Period (Cents)	Relative Average Monthly Price for Ten Year Period	Relative Average Monthly Price if Held	Relative Average Monthly Receipts for Ten Year Period
November........	11.8	100	100	100
December........	11.8	100	98	83
January..........	11.6	98	96	49
February.........	11.6	98	95	34
March...........	11.7	99	95	29
April............	11.8	100	95	19
May.............	12 3	104	98	13 +
June.............	12.4	105	98	8
July.............	12.6	107	99	6
August...........	12.3	104	..	13
September........	11.8	100	..	47
October..........	11.6	98	..	91

but since carrying charges up to July first were $\frac{9}{10}$ cents per pound, the farmer actually lost $\frac{1}{10}$ cents per pound by holding. Examination of the table shows that in only three out of the eight months cotton sold at a higher price than at the time it was ready for the market; and if carrying charges be taken into account, it will be seen that if the farmer had sold in any one of the eight months he would have lost by the holding.

But it is urged that the ten year average is not significant and that of more importance are the yearly fluctuations of which the farmer can take advantage. For

TABLE V. — GAIN OR LOSS PER BUSHEL BY HOLDING WHEAT AND SELLING IN THE MONTHS SPECIFIED, 1903–1904 TO 1912–1913, AND AVERAGE GAIN OR LOSS DURING THE TEN YEAR PERIOD

	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	July
	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)
1903–04:												
Selling price.	83.8	86.3	82.4	81.0	82.4	87.4	98.0	93.3	91.2	94.6	96.0	100.5
Cost of holding	. . .	1.26	2.52	3.78	5.04	6.30	7.56	7.98	8.40	8.82	9.24	9.66
Net selling price.	. . .	85.0	79.9	77.2	77.4	81.1	90.4	85.3	82.8	85.8	86.8	90.8
Profit (+) or loss (−). . . .	. . .	+1.2	−3.9	−6.6	−6.4	−2.7	+6.6	+1.5	−1.0	+2.0	+3.0	+7.0
1904–05:												
Selling price.	111.0	119.0	118.5	117.5	118.5	119.5	119.5	115.4	103.3	101.6	113.7	116.0
Cost of holding.	. . .	1.67	3.34	4.01	6.68	8.35	10.02	10.58	11.14	11.70	12.26	12.82
Net selling price	. . .	117.3	115.2	113.5	111.8	111.1	109.5	104.8	92.2	89.9	101.4	103.2
Profit (+) or loss (−). . . .	. . .	+6.3	+4.2	+2.5	+.8	+.1	−1.5	−6.2	−18.8	−21.1	−9.6	−7.8
1905–06:												
Selling price.	109.0	91.5	89.1	88.5	86.3	83.3	81.4	77.0	80.3	83.8	83.7	79.9
Cost of holding.	. . .	1.64	3.28	4.92	6.56	8.20	9.84	10.39	10.94	11.49	12.04	12.59
Net selling price	. . .	89.9	85.8	83.6	79.7	75.1	71.6	66.6	69.4	72.3	71.7	67.3
Profit (+) or loss (−). . . .	. . .	−19.1	−23.2	−25.4	−29.3	−33.9	−37.4	−42.4	−39.6	−36.7	−37.3	−41.7
1906–1907:												
Selling price.	75.7	78.0	72.4	72.9	73.8	. . .	84.5	82.8	83.5	95.0	101.5	103.3
Cost of holding.	. . .	1.14	2.28	3.42	4.56	. . .	6.84	7.22	7.60	7.98	8.36	8.74
Net selling price.	. . .	76.9	70.1	69.5	69.2	. . .	77.7	75.6	75.9	87.0	93.1	94.6
Profit (+) or loss (−). . . .	. . .	+1.2	−5.6	−6.2	−6.5	. . .	+2.0	−.1	+.2	+11.3	+17.4	+18.9
1907–08:												
Selling price.	99.0	108.5	115.0	. . .	. . .	. . .	. . .	106.5	106.0	. . .	109.5	117.0
Cost of holding.	. . .	1.49	2.98	. . .	. . .	. . .	. . .	9.44	9.94	. . .	10.94	11.44
Net selling price.	. . .	107.0	112.0	. . .	. . .	. . .	. . .	97.1	96.1	. . .	98.6	105.6
Profit (+) or loss (−). . . .	. . .	+8.0	+13.0	. . .	. . .	. . .	. . .	−1.9	−2.9	. . .	+.4	+6.6

1908–09:												
Selling price	116.0	107.0	105.0	107.0	109.3	109.3	115.8	117.4	125.1	131.8	132.5	133.3
Cost of holding	⋮	1.74	3.48	5.22	6.96	8.70	10.44	11.02	11.60	12.18	12.76	13.34
Net selling price	⋮	105.3	101.5	101.8	102.3	100.6	105.4	106.4	113.5	119.6	119.7	120.0
Profit (+) or loss (−)	⋮	−10.7	−14.5	−14.2	−13.7	−15.4	−10.6	−9.6	−2.5	+3.6	+3.7	+4.0
1909–10:												
Selling price	120.3	105.5	106.4	107.6	112.9	113.7	115.2	115.9	113.6	109.6	107.0	120.3
Cost of holding	⋮	1.80	3.60	5.40	7.20	9.00	10.80	11.40	12.00	12.60	13.20	13.80
Net selling price	⋮	103.7	102.8	102.2	105.7	104.7	104.4	104.5	101.6	97.0	93.8	106.5
Profit (+) or loss (−)	⋮	−16.6	−17.5	−18.1	−14.6	−15.6	−15.9	−15.8	−18.7	−23.3	−26.5	−13.8
1910–11:												
Selling price	121.3	114.0	108.5	105.0	107.0	107.5	102.0	98.5	98.5	102.0	98.5	101.0
Cost of holding	⋮	1.82	3.64	5.46	7.28	9.10	10.92	11.54	12.15	12.76	13.37	13.98
Net selling price	⋮	112.2	104.9	99.5	99.7	98.4	91.1	87.0	86.3	89.2	85.1	87.0
Profit (+) or loss (−)	⋮	−9.1	−16.4	−21.8	−21.6	−22.9	−30.2	−34.3	−35.0	−32.1	−36.2	−34.3
1911–12:												
Selling price	105.5	106.0	112.5	109.5	107.5	110.5	111.5	111.5	115.0	118.5	116.5	110.5
Cost of holding	⋮	1.59	3.18	4.77	6.36	7.95	9.54	10.07	10.60	11.13	11.66	12.19
Net selling price	⋮	104.4	109.3	104.7	101.1	102.5	102.0	101.4	104.4	107.4	104.8	98.3
Profit (+) or loss (−)	⋮	−1.1	+3.8	−.8	−4.4	−3.0	−3.5	−4.1	−1.1	+1.9	−.7	−7.2
1912–13:												
Selling price	103.0	93.8	94.0	88.5	87.9	90.8	92.3	89.9	92.8	93.3	93.8	91.8
Cost of holding	⋮	1.55	3.10	4.65	6.20	7.75	9.30	9.82	10.34	10.86	11.38	11.90
Net selling price	⋮	92.2	90.9	83.8	81.7	83.0	83.0	80.1	82.5	82.4	82.4	79.9
Profit (+) or loss (−)	⋮	−10.8	−12.1	−19.2	−21.3	−20.0	−20.0	−22.9	−20.5	−20.6	−20.6	−23.1
Total average:												
Selling price	104.5	101.0	100.4	97.5	98.4	102.8	102.2	100.8	100.9	103.4	105.3	107.4
Cost of holding	⋮	1.57	3.14	4.71	6.28	7.85	9.42	9.94	10.46	10.98	11.50	12.02
Net selling price	⋮	99.4	97.3	92.8	92.1	94.9	92.8	90.9	90.4	92.4	93.8	95.4
Profit (+) or loss (−)	⋮	−5.1	−7.2	−11.7	−12.4	−9.6	−11.7	−13.6	−14.1	−12.1	−10.7	−9.1

example, Mr. Harding, of the Federal Reserve Board, while disclaiming to give any advice on the matter of holding cotton, says: " I wish to call attention to the fact that cotton is a commodity which has always shown itself susceptible to marked and sudden fluctuations in value ";[1] and he goes on to infer that, owing to this fact, it should be to the farmer's advantage to hold his cotton in order to take advantage of such fluctuations. He assumes that under prevailing conditions cotton is thrown on the market in such quantities as to cause congestion, and adds that the provision of the Federal Reserve Board will permit more orderly methods in marketing the crop. To quote, " I am convinced that the results of a gradual marketing of the crop this season will be far more satisfactory than would be the case were the crop forced upon the market within a short period."[2]

In order to show just what the monthly fluctuations are and what they mean to the farmer, the following tables have been prepared. These tables state for each of the four commodities the monthly selling prices for a

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[1] It is worth while to give Mr. Harding's statement in full. After speaking about the possibility of holding cotton, he says: " These are matters for individual judgment but I wish to call attention to the fact that cotton is a commodity which has always shown itself susceptible to marked and sudden fluctuations in value. As a case in point, I may cite the twelve calendar years, 1904–14, both inclusive. In one of these years, 1904, the difference between the high and low point in the price of cotton was 10.41 cents per pound, or more than $50 per bale (according to official quotations on the New York Cotton Exchange). The least range in values occurred in the year 1906 in extreme fluctuations of 2.65 cents per pound, or about $13 a bale, and the average annual fluctuation during the entire period of twelve years has been 5.38 cents per pound, or about $27 per bale."

Mr. Harding's statistics are hardly accurate. In the first place, in comparing the lowest price for December, 1904, with the highest price for March of the same year, he has not only committed the inaccuracy of comparing the high of one month with the low of another, but has also made the very serious error of not confining his statistics to one crop. The real difference in price for the year should not have been 10.4 cents but, as given in our table, 3.9 cents; and even if we take the highest and lowest price of the year 1904 for the same crop, we find a difference of 4.8 cents. Mr. Harding has made the same error in his statistics for the year 1906. (Federal Reserve Board Bulletin, September, 1915, p. 225.)

[2] Federal Reserve Board Bulletin, September, 1915, p. 225.

ten year period, the cost of carrying, the net selling price (selling price less cost of carrying), and if carried after being ready for market, the monthly profit or loss to the farmer after the carrying charges have been met.

Table V (see pages 814–815) shows the actual gain or loss per bushel by holding wheat and selling in any month after August during each year 1903–04 to 1912–13, and the average monthly gain or loss during the ten year period.

It is clear from this table that if the farmer had held his wheat from August, 1903, until the following November, he would have lost seven cents per bushel, but if he had held it until either February or July, 1904, he would have made a profit of the same amount. It is also seen that during four of the ten years there was no month in which the farmer could have sold at a profit from holding, but that in each month during these years he would have sustained a loss of from nine to forty-two cents per bushel; also that during the remaining six years there were only from two to six months in which he could have sold at a profit, varying from one to nineteen cents, from holding. During all the one hundred and ten months of the ten years there were only twenty-three months in which he could have sold at a profit from holding. The figures for the ten year average show no gain in any month from the holding, and show losses ranging from five to fourteen cents.

It is to be remembered, moreover, that if we assume that the farmer will take advantage of the highest price each year, we assume him, unlike the average speculator, to be omniscient.

Table VI (see pages 818–819) shows the actual gain or loss per bushel by holding oats. By holding oats until either November, or December, 1903, instead of selling in the previous August, the farmer would have lost one

TABLE VI.— GAIN OR LOSS PER BUSHEL BY HOLDING OATS AND SELLING IN THE MONTHS SPECIFIED, 1903–1904 TO 1912–1913, AND AVERAGE GAIN OR LOSS DURING THE TEN YEAR PERIOD

	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	July
	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)
1903–04:												
Selling price............	35.2	36.8	36.5	35.9	36.1	39.0	42.7	40.4	39.0	42.2	41.0	41.8
Cost of holding.........	...	.53	1.06	1.59	2.12	2.65	3.18	3.36	3.54	3.72	3.90	4.08
Net selling price.......	...	36.3	35.4	34.3	34.0	36.3	39.5	37.0	35.5	38.5	37.1	37.7
Profit (+) or loss (−)....	...	+1.1	+.2	−.9	−1.2	+1.1	+4.3	+1.8	+.3	+3.3	+1.9	+2.5
1904–1905:												
Selling price...........	35.8	31.6	29.9	30.6	30.1	30.2	30.9	31.3	30.2	30.3	31.8	30.6
Cost of holding.........	...	.54	1.08	1.62	2.16	2.70	3.24	3.40	3.58	3.76	3.94	4.12
Net selling price........	...	31.1	28.8	29.0	27.9	27.5	27.7	27.9	26.6	26.5	27.9	26.5
Profit (+) or loss (−)....	...	−4.7	−7.0	−6.8	−7.9	−8.3	−8.1	−7.9	−9.2	−9.3	−7.9	−9.3
1905–06:												
Selling price...........	27.4	27.5	29.1	30.2	31.1	30.8	30.1	29.8	31.8	33.4	38.3	34.8
Cost of holding.........	...	.41	.82	1.23	1.64	2.05	2.46	2.62	2.76	2.90	3.04	3.18
Net selling price........	...	27.1	28.3	29.0	29.5	28.7	27.6	27.2	29.0	30.5	35.3	31.6
Profit (+) or loss (−)....	...	−.3	−.9	+1.6	+2.1	+1.3	+.2	−.2	+1.6	+3.1	+7.9	+4.2
1906–07:												
Selling price...........	30.6	32.1	33.5	34.1	34.4	35.4	39.1	41.3	43.5	46.5	45.4	43.6
Cost of holding.........	...	.46	.92	1.38	1.84	2.30	2.76	2.89	3.04	3.19	3.34	3.49
Net selling price........	...	31.6	32.6	32.7	32.6	33.1	36.3	38.4	40.5	43.3	42.1	40.1
Profit (+) or loss (−)....	...	+1.0	+2.0	+2.1	+2.0	+2.5	+5.7	+7.8	+9.9	+12.7	+11.5	+9.5
1907–08:												
Selling price...........	49.4	53.8	49.9	46.8	48.7	49.9	50.8	53.4	52.8	54.6	51.5	55.8
Cost of holding.........	...	.74	1.48	2.22	2.96	3.70	4.44	4.71	4.96	5.21	5.46	5.71
Net selling price........	...	53.1	48.4	44.6	45.7	46.2	46.4	48.7	47.8	49.4	46.0	50.1
Profit (+) or loss (−)....	...	+3.7	−1.0	−4.8	−3.7	−3.2	−3.0	−.7	−1.6	...	−3.4	+.7

1908–09:													
Selling price	48.3	49.1	47.9	48.7	49.4	49.8	52.6	54.0	54.6	59.4	56.4	49.0	
Cost of holding	…	.72	1.44	2.16	2.88	3.60	4.32	4.58	4.82	5.06	5.30	5.54	
Net selling price	…	48.4	46.5	46.5	46.5	46.2	48.3	49.4	49.8	54.3	51.1	43.5	
Profit (+) or loss (−)	…	+.1	−1.8	−1.8	−1.8	−2.1	…	+1.1	+1.5	+6.0	+2.8	−4.8	
1909–10:													
Selling price	39.8	42.9	39.8	39.1	47.5	46.5	47.6	45.1	42.5	39.9	37.6	41.6	
Cost of holding	…	.60	1.20	1.80	2.40	3.00	3.60	3.79	3.99	4.19	4.39	4.59	
Net selling price	…	42.3	38.6	37.3	45.1	43.5	44.0	41.3	38.5	35.7	33.2	37.0	
Profit (+) or loss (−)	…	+2.5	−1.2	−2.5	+5.3	+3.7	+4.2	+1.5	−1.3	−4.1	−6.6	−2.8	
1910–11:													
Selling price	35.8	32.9	31.3	31.2	31.8	31.6	30.6	29.7	30.8	33.9	39.6	42.6	
Cost of holding	…	.54	1.08	1.62	2.16	2.70	3.24	3.40	3.58	3.76	3.94	4.12	
Net selling price	…	32.4	30.2	29.6	29.6	28.9	27.4	26.3	27.2	30.1	35.7	38.5	
Profit (+) or loss (−)	…	−3.4	−5.6	−6.2	−6.2	−6.9	−8.4	−9.5	−8.6	−5.7	−.1	+2.7	
1911–12:													
Selling price	40.9	44.3	46.2	46.2	46.8	49.2	52.2	53.1	56.5	54.3	52.1	49.5	
Cost of holding	…	.62	1.24	1.86	2.48	3.10	3.72	3.92	4.13	4.34	4.55	4.76	
Net selling price	…	43.7	45.0	44.3	44.3	46.1	48.5	49.2	52.4	50.0	47.5	44.7	
Profit (+) or loss (−)	…	+2.8	+4.1	+3.4	+3.4	+5.2	+7.6	+8.3	+11.5	+9.1	+6.6	+3.8	
1912–13:													
Selling price	33.0	32.9	32.3	30.9	32.3	32.8	33.8	32.7	34.9	39.1	40.8	39.7	
Cost of holding	…	.50	1.00	1.50	2.00	2.50	3.00	3.17	3.34	3.51	3.68	3.85	
Net selling price	…	32.4	31.3	29.4	30.3	30.3	30.8	29.5	31.6	35.6	37.1	35.8	
Profit (+) or loss (−)	…	−.6	−1.7	−3.6	−2.7	−2.7	−2.2	−3.5	−1.4	+2.6	+4.1	+2.8	
Total average:													
Selling price	37.6	38.4	37.6	37.4	38.8	39.5	41.0	41.1	41.7	43.4	43.5	42.9	
Cost of holding	…	.57	1.14	1.71	2.28	2.85	3.42	3.61	3.80	3.99	4.18	4.37	
Net selling price	…	37.8	36.5	35.7	36.5	36.6	37.6	37.5	37.9	39.4	39.3	38.5	
Profit (+) or loss (−)	…	+.2	−1.1	−1.9	−1.1	−1.0	…	−.1	+.3	+1.8	+1.7	+.9	

cent per bushel, and by holding until February, 1904, he would have gained four cents. If a similar comparison with the August selling price be made for each month of each of the ten years, it will be seen that there was one year in no month of which could the farmer have sold his oats at a profit from the holding, while there were two years in which there was no month in which he could not have sold at a profit from holding, and that during the seventy-seven months of the remaining seven years there were twenty-nine months in which there would have been gains from holding ranging from one to eight cents, while in the forty-eight remaining months there would have been losses from holding ranging from one to ten cents. The figures for the ten year average show three months in which the farmer would have gained from one to two cents per bushel, and four months in which he would have lost one to two cents, while in four months he would have broken even, by holding.

Table VII (see pages 822–823) shows the actual gain or loss per bushel by holding corn. This table indicates that by holding his corn until either March or June, 1904, instead of selling it the preceding December, the farmer would have made a profit of seven cents per bushel, and by holding until July he would have lost two cents per bushel. A comparison of the August selling price of each year with the other selling prices of that year shows that there were three of the ten years in which there was no month in which the farmer could have sold at a gain from holding, and that in from two to eight months of the remaining seven years he could have sold at a profit of from one to thirteen cents by holding. During all the one hundred and ten months of the ten years, there were only thirty-seven months in which a profit could have been made from the holding, while in

the remaining seventy-three months there would have been losses ranging from one to thirty-two cents per bushel. The figures for the ten year average show no month in which a profit could have been made from the holding, and ten months in which there would have been losses ranging from one to seven cents per bushel, and two months with neither profit nor loss.

Table VIII (see pages 824–825) shows the actual gain or loss per pound by holding cotton. It is apparent that if the farmer had held his cotton from November, 1904, to January, 1905, he would have lost 2.8 cents per pound by holding, and he would also have lost by holding if he had sold in any month up to July first, but if he had sold then he would have gained $\frac{1}{10}$ cents per pound; that is, if he had sold in any one of seven out of the eight months the farmer would have sustained losses by holding ranging from 1.2 to 2.8 cents per pound. There was one year of the ten during which there was no month in which the farmer could have sold his cotton without loss from having held it since November. During the entire eighty months of the ten years, there were twenty-four months in which he could have sold with a profit, ranging from $\frac{1}{10}$ to 2.4 cents, from holding, while had he sold in any one of the remaining fifty-six months he would have sustained a loss of from $\frac{1}{10}$ to 2.8 cents per pound by holding. The figures for the ten year average show no month in which the farmer could have sold without loss from holding.

A summary of the statistics shown in the preceding tables is given on page 826.

The much talked of congestion due to too rapid marketing of agricultural products is largely a myth in so far as the United States is concerned. This is prevented to a great extent by certain factors which no

TABLE VII. — GAIN OR LOSS PER BUSHEL BY HOLDING CORN AND SELLING IN THE MONTHS SPECIFIED, 1903–1904 TO 1912–1913, AND AVERAGE GAIN OR LOSS DURING THE TEN YEAR PERIOD

	Dec.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.
	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)
1903–04:												
Selling price........	42.4	45.1	50.3	52.8	51.7	48.6	56.4	48.6	53.5	52.9	53.6	54.1
Cost of holding	...	3.14	3.60	3.94	4.95	6.48	7.49	8.34	9.02	9.44	9.82	10.03
Net selling price.......	...	42.0	46.7	48.9	46.7	42.1	48.9	40.3	44.5	43.5	43.8	44.1
Profit (+) or loss (−)....	...	− .4	+4.3	+6.5	+4.3	− .3	+6.5	−2.1	−2.1	+1.1	+1.4	+1.7
1904–05:												
Selling price........	46.3	42.6	44.1	47.0	47.8	56.3	54.3	56.4	55.0	52.9	52.3	48.5
Cost of holding.......	...	3.42	3.93	4.30	5.41	7.08	8.19	9.11	9.85	10.31	10.72	10.95
Net selling price.......	...	39.2	40.2	42.7	42.4	49.2	46.1	47.3	45.1	42.6	41.6	37.5
Profit (+) or loss (−)....	...	−7.1	−6.1	−3.6	−3.9	+2.9	− .2	+1.0	−1.2	−3.7	−4.7	−8.8
1905–06:												
Selling price........	46.1	42.0	43.4	41.5	45.8	48.8	52.4	51.4	49.8	48.5	46.0	45.6
Cost of holding.......	...	3.41	3.92	4.29	5.39	7.05	8.16	9.08	9.82	10.28	10.69	10.92
Net selling price.......	...	38.6	39.5	37.2	40.4	41.7	44.2	42.3	40.0	38.2	35.3	34.7
Profit (+) or loss (−)....	...	−7.5	−6.6	−8.9	−5.7	−4.4	−1.9	−3.8	−6.1	−7.9	−10.8	−11.4
1906–07:												
Selling price........	43.0	41.6	43.6	44.0	47.5	52.8	53.1	53.6	57.8	62.1	61.1	59.5
Cost of holding.......	...	3.18	3.65	3.98	5.01	6.55	7.58	8.44	9.12	9.54	9.92	10.13
Net selling price.......	...	38.4	39.9	40.0	42.5	46.2	45.5	45.2	46.7	52.6	51.2	49.4
Profit (+) or loss (−)....	...	−4.6	−3.1	−3.0	− .5	+3.2	+2.5	+2.2	+3.7	+9.6	+8.2	+6.4
1907–08:												
Selling price........	59.5	58.5	58.0	62.3	66.5	74.9	70.8	74.3	78.8	80.0	72.5	64.3
Cost of holding.......	...	4.41	5.06	5.54	6.97	9.12	10.55	11.74	12.69	13.29	13.83	14.13
Net selling price.......	...	54.1	52.9	56.8	59.5	65.8	60.2	62.6	66.1	66.7	58.7	50.2
Profit (+) or loss (−)....	...	−5.4	−6.6	−2.7	...	+6.3	+ .7	+3.1	+6.6	+7.2	− .8	−9.3

1908–09:												
Selling price	59.5	59.5	63.3	65.8	69.5	74.1	74.3	71.1	68.3	66.4	60.5	62.9
Cost of holding	…	4.41	5.06	5.54	6.97	9.12	10.55	11.74	12.69	13.29	13.83	14.13
Net selling price	…	55.1	58.2	60.3	62.5	65.0	63.7	59.4	55.6	53.1	46.7	48.8
Profit (+) or loss (−)	…	− 4.4	− 1.3	+ .8	+ 3.0	+ 5.5	+ 4.2	− .1	− 3.9	− 6.4	− 12.8	− 10.7
1909–10:												
Selling price	64.3	65.3	64.8	62.5	58.8	59.5	59.0	63.0	63.1	55.4	50.0	49.8
Cost of holding	…	4.76	5.46	5.98	7.52	9.83	11.37	12.66	13.68	14.33	14.90	15.22
Net selling price	…	60.5	59.3	56.5	51.3	49.7	47.6	50.3	49.4	41.1	35.1	34.6
Profit (+) or loss (−)	…	− 3.8	− 5.0	− 7.8	− 13.0	− 14.6	− 16.7	− 14.3	− 14.9	− 23.2	− 29.2	− 29.7
1910–11:												
Selling price	47.8	46.6	46.8	46.8	49.6	53.8	56.4	63.4	64.0	67.3	72.3	72.5
Cost of holding	…	3.54	4.07	4.45	5.60	7.32	8.47	9.42	10.19	10.67	11.08	11.32
Net selling price	…	43.1	42.7	42.3	44.0	46.5	47.9	54.0	53.8	56.6	61.2	61.2
Profit (+) or loss (−)	…	− 4.7	− 5.1	− 5.5	− 3.8	− 1.3	+ .1	+ 6.2	+ 6.0	+ 8.8	+ 13.4	+ 13.4
1911–12:												
Selling price	69.5	66.8	65.0	70.4	77.8	79.4	74.3	72.3	78.3	73.6	63.8	54.4
Cost of holding	…	5.15	5.91	6.47	8.14	10.65	12.32	13.71	14.82	15.52	16.15	16.50
Net selling price	…	61.6	59.1	63.9	69.7	68.7	62.0	58.6	63.5	58.1	47.6	37.9
Profit (+) or loss (−)	…	− 7.9	− 10.4	− 5.6	+ .2	− .8	− 7.5	− 10.9	− 6.0	− 11.4	− 21.9	− 31.6
1912–13:												
Selling price	50.8	48.5	50.3	51.8	55.5	57.6	60.6	63.3	73.4	74.8	70.4	72.6
Cost of holding	…	3.76	4.31	4.71	5.93	7.75	8.97	9.98	10.79	11.29	11.75	12.0
Net selling price	…	44.7	46.0	46.1	49.6	48.8	51.6	53.3	62.6	63.5	58.6	60.6
Profit (+) or loss (−)	…	− 6.1	− 4.8	− 4.7	− 1.2	− 2.0	+ .8	+ 2.5	+ 11.8	+ 12.7	+ 7.8	+ 9.8
Total average:												
Selling price	52.9	51.7	53.0	54.5	57.1	60.6	61.2	61.7	64.2	63.4	60.3	58.4
Cost of holding	…	3.91	4.49	4.90	6.17	8.07	9.34	10.39	11.23	11.76	12.23	12.49
Net selling price	…	47.8	48.5	49.6	50.9	52.5	51.9	51.3	53.0	51.6	48.1	45.9
Profit (+) or loss (−)	…	− 5.1	− 4.4	− 3.3	− 2.0	.4	− 1.0	− 1.6	+ .1	− 1.3	− 4.8	− 7.0

TABLE VIII.—GAIN OR LOSS PER POUND BY HOLDING COTTON AND SELLING IN THE MONTH AS SPECIFIED, 1904–1905 TO 1913–1914, 1915–1916, AND AVERAGE GAIN OR LOSS DURING THE TEN YEAR PERIOD

	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	July
	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)
1904–05:											
Selling price............	11.1	10.3	9.8	7.9	7.2	7.8	8.0	7.9	8.4	9.3	10.7
Carrying charges........				.15	.25	.35	.45	.55	.65	.75	.85
Net selling price........				7.8	7.0	7.5	7.6	7.4	7.8	8.6	9.9
Profit (+) or loss (−)....				−2.0	−2.8	−2.3	−2.2	−2.4	−2.0	−1.2	+ .1
1905–06:											
Selling price............	10.9	10.3	11.5	12.1	11.8	11.1	11.4	11.7	11.7	11.1	10.9
Carrying charges........				.16	.27	.38	.49	.60	.71	.82	.93
Net selling price........				11.9	11.5	10.7	10.9	11.1	11.0	10.3	10.0
Profit (+) or loss (−)....				+ .4	...	− .8	− .6	− .4	− .5	−1.2	−1.5
1906–07:											
Selling price............	9.8	10.8	10.8	10.9	10.9	11.1	11.2	11.2	12.2	13.0	13.2
Carrying charges........				.15	.25	.35	.45	.55	.65	.75	.85
Net selling price........				10.8	10.7	10.8	10.8	10.7	11.6	12.3	12.4
Profit (+) or loss (−)....				...	− .1	...	...	− .1	+ .8	+1.5	+1.6
1907–08:											
Selling price............	12.7	11.4	11.2	12.0	11.7	11.6	11.0	10.2	10.9	11.8	11.1
Carrying charges........				.16	.27	.38	.49	.60	.71	.82	.93
Net selling price........				11.8	11.4	11.2	10.5	9.6	9.2	11.0	10.2
Profit (+) or loss (−)....				+ .6	+ .2	...	− .7	−1.6	−2.0	− .2	−1.0
1908–09:											
Selling price............	9.5	9.2	9.4	9.2	9.6	9.8	9.7	10.4	11.3	11.6	12.6
Carrying charges........				.15	.25	.35	.45	.55	.65	.75	.85
Net selling price........				9.1	9.4	9.5	9.3	9.9	10.7	10.9	11.8
Profit (+) or loss (−)....				− .3	...	+ .1	− .1	+ .5	+1.3	+1.5	+2.4

1909–10:											
Selling price	13.1	14.2	14.7	15.4	15.0	14.7	15.0	14.9	15.3	15.0	15.9
Carrying charges	:	:	:	.17	.29	.41	.53	.65	.77	.89	1.01
Net selling price	:	:	:	15.2	14.7	14.3	15.5	14.3	14.5	14.1	14.9
Profit (+) or loss (−)	:	:	:	+ .5	...	− .4	+ .8	− .4	− .2	− .6	+ .2
1910–11:											
Selling price	14.6	14.3	14.8	15.0	14.9	14.5	14.4	14.9	15.8	15.4	13.7
Carrying charges	:	:	:	.17	.29	.41	.53	.65	.77	.89	1.01
Net selling price	:	:	:	14.8	14.6	14.1	13.9	14.3	15.0	14.5	12.7
Profit (+) or loss (−)	:	:	:	...	− .2	− .7	− .9	− .5	+ .2	− .3	− 2.1
1911–12:											
Selling price	11.2	9.8	9.5	9.4	9.5	10.3	10.6	11.4	11.6	11.7	12.5
Carrying charges	:	:	:	.15	.25	.35	.45	.55	.65	.75	.85
Net selling price	:	:	:	9.3	9.3	10.0	10.2	10.9	11.0	11.0	11.7
Profit (+) or loss (−)	:	:	:	− .2	− .2	+ .5	+ .7	+ 1.4	+ 1.5	+ 1.5	+ 2.2
1912–13:											
Selling price	11.7	11.2	12.4	13.0	13.1	12.8	12.7	12.2	12.0	12.1	12.2
Carrying charges	:	:	:	.16	.27	.38	.49	.60	.71	.82	.93
Net selling price	:	:	:	12.8	12.8	12.4	12.2	11.6	11.3	11.3	11.3
Profit (+) or loss (−)	:	:	:	+ .4	+ .4	...	− .2	− .8	− 1.1	− 1.1	− 1.1
1913–14:											
Selling price	13.5	14.1	13.7	13.0	12.7	12.8	13.4	13.2	13.7	13.5	12.9
Carrying charges	:	:	:	.17	.29	.41	.53	.65	.77	.89	1.01
Net selling price	:	:	:	12.8	12.4	12.4	12.9	12.6	12.9	12.6	11.9
Profit (+) or loss (−)	:	:	:	− .9	− 1.3	− 1.3	− .8	− 1.1	− .8	− 1.1	− 1.8
Total average:											
Selling price	:	:	11.8	11.8	11.6	11.6	11.7	11.8	12.3	12.4	12.6
Carrying charges	:	:	:	.16	.27	.38	.49	.60	.71	.82	.93
Net selling price	:	:	:	11.6	11.3	11.2	11.2	11.2	11.6	11.6	11.7
Profit (+) or loss (−)	:	:	:	− .2	− .5	− .6	− .6	− .6	− .2	− .2	− .1
1915–16:											
Selling price	:	:	11.6	11.2	11.4	11.5	11.1	11.5	11.5	12.5	:
Carrying charges	:	:	:	.16	.27	.38	.49	.60	.71	.82	:
Net selling price	:	:	:	11.0	11.1	11.1	10.6	10.9	10.8	11.7	:
Profit (+) or loss (−)	:	:	:	− .6	− .5	− .5	− 1.0	− .7	− .8	+ .1	:

man-made regulations can get around. First of all, in a country as large as ours there is a wide variation in the crop season; our wheat harvesting, for example, begins in the southern part of the territory as early as June, while in the northern sections of the country it is in full swing in September. Furthermore, in regions in the same latitude winter wheat will be ready for harvest-

THE NUMBER OF MONTHS IN EACH SPECIFIED YEAR AND DURING THE TEN YEAR AVERAGE, THE FARMER, BY HOLDING HIS CROP, COULD HAVE SOLD AT A GAIN OR LOSS

Number of Months Could have Sold at a Gain or Loss	Wheat [1]			Corn [1]			Oats [1]			Cotton [2]		
	gain	loss	even	gain	loss	even	gain	loss	even	gain	loss	even
1903–1904 ..	6	5		8	1	2	7	2		..		..
1904–1905 .	4	6	1	2	8	1		11		1	7	.
1905–1906	11				11		7	1	3	1	6	1
1906–1907 [3]	5	3	2	7	4		11			3	2	3
1907–1908 [4]	3	2	1	5	5	1	2	8	1	2	5	1
1908–1909 .	3	8	.	4	6	1	4	5	2	5	2	1
1909–1910 .		11			11		5	6		3	4	1
1910–1911		11		5	5	1	1	9	1	1	6	1
1911–1912	2	9	..	.	10	1	11		.	6	2	..
1912–1913 .	.	11	.	6	5		3	8		2	5	1
1913–1914	..	..	.	..	..	..	..	..	..	..	8	..
Ten year average		11	.	.	9	2	3	4	4	..	8	..
1915–1916							.			1	6	..

ing earlier than the spring wheat, and in the same region the threshing period must extend over a considerable length of time. The exigencies of agriculture permit one farmer to thresh out of the shock and so get his grain ready for marketing weeks earlier than his neighbor who threshes out of the stack. In the case of such grains as corn and oats, an important steadying factor in marketing is the fact that in many cases it is only the

[1] Total months held, 11.

[2] Total months held, 8.

[3] One month no quotation for wheat.

[4] Five months no quotation for wheat.

farmer's surplus, after the demands of live stock have been met, which is placed on the market, and the amount of this surplus cannot be ascertained since it depends on weather conditions — for example, on the length and severity of the winter — and on whether the price of live stock in comparison with the price of grain makes it worth while to have a long or short feeding period. The marketing of wheat will also be materially affected by its price as compared with the prices of the grains usually grown for fodder. For example, it often happens that large quantities of wheat intended for human consumption are fed to stock owing to the relatively high price of corn.

The same general rules apply to cotton as to grain. Cotton picking begins in southern Texas in June, while in Georgia it is not in full swing until August; but not all the cotton in the same field is ready to harvest at the same time, and oftentimes there are three pickings, the first bolls opening in August and the last in December or even in January. Nor is it possible to gin all cotton as soon as picked, and so the ginning period extends over months.

Furthermore, the fact should not be lost sight of that there are many conditions in agriculture which make it necessary or economic for certain farmers to hold their products. Landlords, for example, have to wait on the convenience of tenants to deliver their grain to the elevator, and well-to-do farmers who have a surplus of funds and excellent storage facilities may think it worth while to hold their crops.

That nature and economic conditions which are largely beyond the control of man force the orderly marketing of crops will be easily seen by a study of the figures for relative average monthly receipts (see tables

I–IV). On the assumption that the monthly movements of wheat to Chicago and Minneapolis are indicative of the movements to all markets, it is seen that the marketing of wheat is fairly well distributed throughout the year. The average number of bushels delivered in August during the ten year period is 11,879,900, or 9.8 per cent of the total average delivery for the year; in September it is 15,658,300 bushels, or 12.9 per cent of the total delivery, and this is the maximum for any month. The months of small delivery are April, May and June, with percentages of 5.2, 5.1, and 4.4, respectively. In the case of oats the average number of bushels delivered in August is 12,377,800, or 13.2 per cent of the total average delivery for the year, and this is the maximum for any month. The months of small delivery are December, February, April and July, with percentages of 6.7, 6.7, 6.6 and 6.2, respectively. In the case of corn, the average number of bushels delivered in December is 10,949,900, or 10.4 per cent of the total average delivery for the year; in June it is 13,097,600, or 12.4 per cent of the total, and this is the maximum for any month. The months of small delivery are April, May, and October, with percentages of 5.3, 5.5, and 5.5, respectively. In the case of cotton the average number of bales delivered in October is 1,163,400, or 18.5 per cent of the total average delivery for the year; in November it is 1,275,500, or 20.3 per cent of the total, and this is the maximum for any month. The months of small delivery are August, May, June and July, with percentages of 2.6, 2.6, 1.6 and 1.2, respectively. The average number of bales of cotton ginned in October is 4,526,110, or 37.0 per cent of the total, and this is the maximum for any month; in November it is 2,737,399, or 22.4 per cent of the total. The

months of small ginnings are August and January, with percentages of 4.1 and 2.2, respectively.[1]

I have purposely avoided any discussion of the rôle of the speculator in steadying prices, but I cannot refrain from suggesting that the function of the speculator is highly specialized and that the successful exercise of this important function demands intimate knowledge and rare ability such as, in the very nature of things, farmers cannot possess. Therefore to encourage speculation on the part of farmers by forcing the banks to loan them money below normal rates, under the guise of commodity paper, is a highly questionable proceeding.

Nor have I been sufficiently bold to suggest that it would be cheaper for the farmer who believes that the future holds higher prices to sell his product and buy an option. However, a South Dakota farmer not only made this suggestion, but had acted upon it. Last year he raised twelve thousand bushels of wheat, hauled it to market from the machine and bought an option with the proceeds. The trouble is that he still has the option and cannot make up his mind whether to sell it at a loss or to hold on. But this farmer is in no worse predicament than the Georgia planter who has commodity paper against his cotton pressing for payment and must sell at a loss in order to meet his obligation. Indeed, he is better off, because he has only interest to meet, while the Georgia farmer has interest and other carrying charges and is not in a position to take quick advantage of the market. And the one farmer is just as much a speculator as the other. There

[1] The average number of bales of cotton ginned during the ten year period, 1904–13, for August is 500,956; September, 2,927,469; October, 4,526,110; November, 2,737,399; December, 1,271,105; January, 268,456. (Census Bulletin 131, p. 14.) Taking the figure for November as a basis (100), the relative bales ginned are — August, 18; September, 107; October, 165; November, 100; December, 46; January, 10.

is still room for another uplift organization, and if the farmer is to be urged to launch his unpiloted boat upon the maelstrom of speculation, his advisors should organize themselves so as to be able to tell him when and how to get safely back to land.

In conclusion it will be interesting to say something about the effect of commodity paper on prices of agricultural products, particularly cotton. In its Second Annual Report, the Federal Reserve Board seems to take the position that the provision for this paper worked magic in that within sixty days after the act went into effect the price of cotton advanced from eight to twelve cents per pound. But since, as we have indicated, the amount of this commodity paper is a mere bagatelle, the Board states that the effect of the commodity paper regulation was mainly anticipatory and protective. A study of the economic situation during these two months must convince the most skeptical that the real cause was the active buying movement on the part of the English and of our own domestic spinners; and a study of the statistics of marketing will show that it was not more gradual and orderly during the autumn of 1915 than during any other autumn. The abnormally low price of cotton during September, 1915, was due, of course, to conditions growing out of the war. The bulk of the 1915 cotton crop was not ready for market until November, and at this time the price of cotton was 11.6 cents per pound. A glance at Table VIII shows that if the farmer had held his cotton and had attempted to dispose of it before June first, the time of this writing, he would have lost money, and that had he sold on June first he would have about broken even.

Statistics for outstanding commodity paper of all Federal Reserve Banks are not available, but through

the courtesy of the Federal Reserve Board statistics for the bank of Richmond are given here:

December 1, 1915	$1,956,576.26
January 3, 1916	2,366,512.72
February 1, 1916	2,128,849.38
March 1, 1916	2,126,935.72
April 1, 1916	1,663,442.98
May 1, 1916	1,333,831.25
June 1, 1916	924,165.12

It is seen that the date on which the maximum amount was outstanding was January 3, 1916, when the average price of cotton was 11.1 cents per pound. Evidently the farmers who sold their cotton to liquidate this paper must have done so at a loss.[1]

J. E. POPE.

BIG TIMBER, MONTANA.

[1] I wish to express my appreciation of the privilege accorded by Dr H W Gilbertson, of the Department of Agriculture, of reading his unpublished monograph on The Marketing of Farm Products, submitted as a thesis to the faculty of the graduate school of Cornell University. Dr Gilbertson comes to the same conclusions as the writer of this note. In this monograph Dr Gilbertson has extended his study to other farm products, and he concludes that it will not pay the farmer, one year with another, to hold his potatoes, his hay or his apples.

AVERAGE MONTHLY PRICE OF WHEAT, CORN, OATS AND COTTON, 1903–1913 [1]

Month and Item	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	Average Monthly Price for Ten Year Period	Relative Average Monthly Price for Ten Year Period [2]	Relative Average Monthly Price if Held
	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)		
August:														
Wheat	83.8	111.0	109.0	75.7	99.0	116.0	120.3	121.3	105.5	103.0	91.9	104.5[3]	100	100 +
Corn	51.8	53.5	55.0	49.8	57.8	78.8	68.3	63.1	64.0	78.3	73.4	64.2[4]	121	100
Oats	35.2	35.8	27.4	30.6	49.4	48.3	39.8	35.8	40.9	33.0	40.8	37.6[3]	100	100
Cotton	..	11.1	10.9	10.4	13.3	10.2	12.8	17.5	12.4	12.2	12.3	12.3	104	..
September:														
Wheat	86.3	119.0	91.5	78.0	108.5	107.0	105.5	114.0	106.0	93.8	91.6	101.0[3]	97	95
Corn	49.0	52.9	52.9	48.5	62.1	80.0	66.4	55.4	67.3	73.6	74.8	63.4[4]	120	98
Oats	36.8	31.6	27.5	32.1	53.8	49.1	42.9	32.9	44.3	32.9	41.7	38.4[3]	102 +	101
Cotton	..	11.1	10.9	9.8	12.7	9.5	13.1	14.6	11.2	11.7	13.5	11.8	100	..
October:														
Wheat	82.4	118.5	89.1	72.4[5]	115.0	105.0	106.4	108.5	112.5	94.0	87.8	100.4[3]	96	93
Corn	44.8	53.6	52.3	46.0	61.1	72.5	60.5	50.0	72.3	63.8	70.4	60.3[4]	114	91
Oats	36.5	29.9	29.1	33.5	49.9	47.9	39.8	33.0	46.2	33.2	38.7	37.6[3]	100	97
Cotton	..	10.3	10.3	10.8	11.4	9.2	14.2	14.3	9.8	11.2	14.1	11.6	98	..
November:														
Wheat	81.0	117.5	88.5	72.9[5]	..	107.0	107.6	105.0	109.5	88.5	89.6	97.5[6]	93	89 +
Corn	43.1	54.1	48.5	45.6	59.5	64.3	62.9	49.8	72.5	54.4	72.6	58.4[6][5]	110	87
Oats	35.9	30.6	30.2	34.1	46.8	48.7	39.1	31.2	46.2	30.9	38.4	37.4[3]	99	95
Cotton	..	9.8	11.5	10.8	11.2	9.4	14.7	14.8	9.5	12.4	13.7	11.8	100	100
December:														
Wheat	82.4	118.5	86.3	73.8[5]	..	109.3	112.9	107.0	107.5	87.9	91.3	98.4[4]	94	88
Corn	42.4	46.3	46.1	43.0	59.5	59.5	64.3	47.8	69.5	50.8	68.8	52.9[3]	100	100
Oats	36.1	30.1	31.1	34.4	48.7	49.4	47.5	31.8	46.8	32.3	38.9	38.8[3]	103	97
Cotton	..	7.9	12.1	10.9	12.0	9.2	15.4	15.0	9.4	13.0	13.0	11.8	100	98
(year for January)	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914			
January:														
Wheat	87.4	119.5	83.3	41.6	58.5	109.3	113.7	107.5	110.5	90.8	..	102.8[7]	98 +	91
Corn	45.1	42.6	42.0	35.4	59.5	59.5	65.3	46.6	66.8	48.5	..	51.7	98	90
Oats	39.0	30.2	30.8	35.4	49.9	49.8	46.5	31.6	49.2	32.8	..	39.5	105	98
Cotton	..	7.2	11.8	10.9	11.7	9.6	15.0	14.9	9.5	13.1	12.7	11.6	98	96

February:														
Wheat......	98.0	119.5	81.4	84.5	.....	115.8	115.2	102.0	111.5	92.3	.....	102.2[8]	98	89 +
Corn.......	50.3	44.1	43.4	43.6	58.0	63.3	64.8	46.8	65.0	50.3	.....	53.0	100 +	92
Oats.......	42.7	30.9	30.1	39.1	50.8	52.6	47.6	30.6	52.2	33.8	.....	41.0	109	100
Cotton.....	.....	7.8	11.1	11.1	11.6	9.8	14.7	14.5	10.3	12.8	12.8	11.6	98	95
March:														
Wheat......	93.3	115.4	77.0	82.8	106.5	117.4	115.9	98.5	111.5	89.9	.....	100.8	96 +	87 +
Corn.......	52.8	47.0	41.5	44.0	62.3	65.8	62.5	46.8	70.4	51.8	.....	54.5	103	94
Oats.......	40.4	31.3	29.8	41.3	53.4	54.0	45.1	29.7	53.1	32.7	.....	41.1	109 +	100 −
Cotton.....	.....	8.0	11.4	11.2	11.0	9.7	15.0	14.4	10.6	12.7	13.4	11.7	99	95
April:														
Wheat......	91.2	103.3	80.3	83.5	106.0	125.1	113.6	98.5	115.0	92.8	.....	100.9	96 +	87
Corn.......	51.7	47.8	45.8	47.5	66.5	69.5	58.8	49.6	77.8	55.5	.....	57.1	108	96
Oats.......	39.0	30.2	31.8	43.5	52.8	54.6	42.5	30.8	56.5	34.9	.....	41.7	111	101
Cotton.....	.....	7.9	11.7	11.2	10.2	10.4	14.9	14.9	11.4	12.2	13.2	11.8	100	95
May:														
Wheat......	94.6	101.6	83.8	95.0	.....	131.8	109.6	102.0	118.5	93.3	.....	103.4	99	88
Corn.......	48.6	56.3	48.8	52.8	74.9	74.1	59.5	53.8	79.4	57.0	.....	60.6	115	99
Oats.......	42.2	30.3	33.4	46.5	54.6	59.4	39.9	33.9	54.3	39.1	.....	43.4	115	105
Cotton.....	.....	8.4	11.7	12.2	10.9	11.3	15.3	15.8	11.6	12.0	13.7	12.3	104	98
June:														
Wheat......	96.0	113.7	83.7	101.5	109.5	132.5	107.0	98.5	116.5	93.8	.....	105.3	101	90 +
Corn.......	56.4	54.3	52.4	53.1	70.8	74.3	59.0	56.4	74.3	60.6	.....	61.2	116	98
Oats.......	41.0	31.8	38.3	45.4	51.5	56.4	37.6	39.6	52.1	40.8	.....	43.5	116	105 −
Cotton.....	.....	9.3	11.1	13.0	11.8	11.6	15.0	15.4	11.7	12.1	13.5	12.4	105	98
July:														
Wheat......	100.5	116.0	79.9	103.3	117.0	133.3	120.3	101.0	110.5	91.8	.....	107.4	103	91 +
Corn.......	48.6	56.4	51.4	53.6	74.3	71.1	63.0	63.4	72.3	63.3	.....	61.7	117	97
Oats.......	41.8	30.6	34.8	43.6	55.8	49.0	41.6	42.6	49.5	39.7	.....	42.9	114	102
Cotton.....	.....	10.7	10.9	13.2	11.1	12.6	15.9	13.7	12.5	12.2	12.9	12.6	107	99

[1] Prices of wheat, corn and oats (per bushel), for Chicago, taken from Year Books, Department of Agriculture. Cotton prices (per pound) taken from Cotton Facts, Shepperson Publishing Co., for twenty-eight interior towns in the United States.

Wheat = No. 1, Northern Spring.
Corn = No. 2 (1903–1908 inclusive) and Contract (1909–1913 inclusive).
Oats = No. 2 (1903–1905 inclusive) and Contract (1906–1913 inclusive).

[2] Wheat, oats, August = 100; corn, December = 100; cotton, November = 100.
[3] Average 1903–1912.
[4] Average 1904–1913.
[5] No. 2, Red Winter.
[6] Average for 9 years of 1903–1912.
[7] Average for 8 years.
[8] Average for 9 years.

MONTHLY RECEIPTS OF WHEAT, CORN, OATS AND COTTON, AUGUST, 1903, TO JULY, 1914[1]

(000 omitted, 1903–1913.)

Month and Item	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	Average Monthly Receipts for 10 Year Period	Relative Average Monthly Receipts for 10 Year Period [2]
August:													
Wheat { C.	3,553	5,119	5,603	9,140	7,079	5,553	6,703	11,784	8,850	6,296	...	11,879,900	100
Wheat { M.	4,193	3,397	4,273	2,536	6,262	3,616	4,550	4,869	6,662	8,761	4,291		
Corn....	6,004	7,252	8,497	4,677	5,632	6,599	6,716	8,022	6,708	6,409	...	6,480,300[3]	59
Oats....	8,532	11,700	10,966	10,146	8,692	8,401	13,099	24,373	13,318	14,551	...	12,377,800	100
Cotton...	....	57	152	169	59	141	129	200	182	260	251	160,000	13
September:													
Wheat { C.	3,785	4,148	2,021	1,968	5,104	2,251	2,705	2,990	2,978	7,364	...	15,658,300	132
Wheat { M.	10,586	8,927	12,735	6,914	6,094	19,108	16,161	13,106	13,810	13,829	15,205		
Corn....	14,697	15,001	11,530	13,030	14,619	8,250	10,739	13,127	11,237	12,426	...	12,516,400[3]	114
Oats....	5,872	7,420	10,744	8,524	11,456	10,458	8,654	7,191	8,309	17,674	...	9,651,200	78
Cotton...	....	696	632	513	336	489	440	644	827	765	703	604,500	47
October:													
Wheat { C.	3,294	3,736	3,161	2,529	2,921	2,648	3,602	1,854	2,068	5,161	...	15,227,600	128
Wheat { M.	11,198	14,276	14,752	9,823	7,217	10,497	10,000	11,727	13,727	18,085	5,795		
Corn....	10,228	3,488	5,031	9,065	13,329	3,559	7,076	8,365	6,881	7,616	...	5,861,500[3]	54
Oats....	8,804	6,000	5,031	11,956	11,627	8,888	8,520	7,706	9,206	17,857	...	10,457,700	84
Cotton...	....	1,047	927	1,020	680	1,463	1,394	1,147	1,210	1,258	1,488	1,163,400	91
November:													
Wheat { C.	5,220	2,685	4,885	1,745	1,125	1,758	2,515	1,202	1,593	5,082	...	13,777,400	116
Wheat { M.	12,735	12,916	12,307	8,369	7,619	8,104	9,169	8,186	12,724	17,808	2,805		
Corn....	6,617	7,437	7,979	6,437	4,138	5,284	5,887	8,164	7,838	7,015	...	6,298,400[3]	58
Oats....	6,980	4,436	9,327	7,331	5,707	5,884	7,570	6,866	5,438	13,507	...	7,304,600	59
Cotton...	....	1,158	1,303	1,490	998	1,369	945	1,195	1,295	1,734	1,268	1,275,500	100
December:													
Wheat { C.	2,774	2,168	1,138	2,158	1,291	1,289	1,567	766	1,086	1,657	...	12,020,000[4]	101
Wheat { M.	12,264	11,596	13,417	11,257	9,866	7,457	6,905	10,005	11,176	13,287	13,842		
Corn....	5,832	16,758	10,578	8,389	9,131	12,468	10,274	13,857	8,925	981	...	10,949,900[3]	100
Oats....	6,342	3,486	8,208	6,320	8,476	6,883	5,676	10,293	6,256	1,064	...	6,292,100	51
Cotton...	....	1,113	724	1,171	890	1,099	757	1,304	1,483	...	919	1,052,400	83
January:	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914		
Wheat { C.	1,249	1,753	993	1,692	1,168	307	831	774	563	3,356	...	8,883,300	75
Wheat { M.	8,281	7,706	8,917	5,937	5,937	4,888	8,056	8,089	8,102	10,232	...		
Corn....	7,484	10,265	8,736	11,488	12,376	8,769	8,787	12,745	12,914	21,937	...	11,550,100	105
Oats....	5,297	3,580	8,125	6,740	6,323	7,635	5,364	8,860	5,242	11,327	...	6,849,300	55
Cotton...	....	377	409	896	736	716	390	500	677	658	928	628,700	49

	1	2	3	4	5	6	7	8	9	10	11	Average[1]	Index[2]
February:													
Wheat C	1,002	821	510	573	661	731	808	641	1,359	2,652	...	7,712,700	65
Wheat M	5,761	6,133	7,738	7,846	5,150	6,113	8,184	4,577	7,522	8,347	...		
Corn	7,305	6,831	7,940	13,158	7,226	7,758	11,977	10,062	15,205	21,454	...	10,891,600	99
Oats	6,778	3,861	5,886	5,481	6,204	5,650	6,726	5,871	7,064	9,063	...	6,258,400	51
Cotton	...	263	405	711	353	448	237	344	747	362	511	438,100	34
March:													
Wheat C	1,091	1,182	319	651	809	2,067	1,494	604	1,421	2,418	...	8,948,200	75
Wheat M	7,648	6,921	8,419	9,392	6,959	5,230	9,644	6,305	6,894	10,014	...		
Corn	5,424	14,808	6,032	11,325	7,899	9,665	8,698	9,872	10,113	11,016	...	9,485,200	87
Oats	8,931	9,095	6,148	8,347	11,330	8,096	8,254	5,720	7,442	8,305	...	8,166,800	66
Cotton	...	634	348	598	292	286	176	223	550	261	337	370,500	29
April:													
Wheat C	691	2,467	222	901	527	758	557	631	970	2,824	...	6,268,900	53
Wheat M	3,004	3,558	4,993	8,809	4,238	3,547	8,960	4,680	3,955	6,397	...		
Corn	8,250	4,498	4,146	7,979	6,460	9,683	3,795	4,696	3,016	3,622	...	5,614,500	51
Oats	3,921	4,100	6,384	9,147	7,733	5,428	5,782	5,553	6,146	7,640	...	6,183,400	50
Cotton	...	450	214	245	191	280	186	120	270	200	223	237,900	19
May:													
Wheat C	614	777	608	1,350	1,047	1,395	2,100	3,682	2,099	1,668	...	6,222,300	52
Wheat M	2,181	4,165	3,200	7,602	4,194	4,215	7,574	4,995	3,686	5,071	...		
Corn	4,758	4,696	7,020	6,393	6,191	5,970	3,008	9,054	5,868	5,135	...	5,809,300	53
Oats	3,749	4,171	6,290	8,351	8,296	7,285	6,431	8,874	7,376	10,788	...	7,161,100	58
Cotton	...	274	188	189	160	164	103	92	182	128	177	165,700	13 +
June:													
Wheat C	768	182	358	920	416	97	493	1,312	506	2,167	...	5,290,800 [5]	45
Wheat M	3,947	4,089	4,348	19,399	9,794	4,277	5,194	5,179	3,372	6,038	...		
Corn	13,239	12,026	14,764	5,688	5,596	8,559	8,584	15,439	12,881	16,292	...	13,097,600	120
Oats	4,537	6,313	7,034	81	138	7,475	6,512	9,761	5,979	16,583	...	7,547,800	61
Cotton	...	229	76			91	61	49	82	69	108	97,900	8
July:													
Wheat C	939	2,910	7,704	1,349	3,042	4,539	2,662	12,899	3,435	10,023	...	9,388,100 [4]	79
Wheat M	3,698	3,217	4,027	6,750	5,032	...	4,545	5,219	2,861	4,181	...		
Corn	6,638	10,331	8,660	8,570	5,052	6,514	6,030	5,093	5,941	6,379	...	6,920,800	63
Oats	3,854	6,288	5,489	4,195	5,222	4,007	6,362	6,945	5,849	10,005	...	5,827,900	47
Cotton	...	190	76	46	127	63	82	23	47	59	62	77,500	6

[1] Figures for wheat (for Chicago and Minneapolis), corn and oats (for Chicago) representing bushels, were taken from American Elevator and Grain Trade, Chicago. Figures for cotton (for twenty-eight interior towns in the United States), representing bales, were taken from Cotton Facts, Shepperson Publishing Co., New York City.

[2] Wheat, oats, August = 100; corn, December = 100; cotton, November = 100.

[3] Average 1904–1913.

[4] Nine year average.

[5] Eight year average.

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